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Beyond the Initial Impression: Diagnostic Anchoring in an Elderly Patient With Metastatic Gallbladder Cancer

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Abstract

Persistent nonspecific symptoms in older adults can be diagnostically challenging, particularly when a plausible pre-existing diagnosis provides a satisfactory explanation. We report the case of a 72-year-old woman with a three-month history of chronic fatigue occurring in the context of a persistent ear infection and known cholesteatoma awaiting surgery. Her fatigue had previously been attributed to the otologic condition during repeated primary care consultations. She subsequently presented to the emergency department with worsening fatigue and five days of bilateral lower limb swelling and was found to have tachycardia, with a heart rate of 129 beats/minute, blood pressure of 110/70 mmHg, temperature of 37.3°C, and oxygen saturation of 95% on air. Given the physiological abnormalities and inflammatory response, an initial working diagnosis of infection/sepsis was considered, and antimicrobial treatment was commenced. Development of dyspnea and reduced right basal air entry prompted chest radiography, which demonstrated a right-sided pleural effusion. Congestive cardiac failure was initially considered; however, the reported N-terminal pro-B-type natriuretic peptide (NT-proBNP) level was not supportive of heart failure. Further laboratory evaluation demonstrated an alkaline phosphatase of 307 U/L, bilirubin of 21 micromol/L, and albumin of 31 g/L. These findings, combined with persistent fatigue and a new pleural effusion, prompted diagnostic re-evaluation. Urgent computed tomography of the chest, abdomen, and pelvis demonstrated extensive ill-defined liver lesions and abnormal gallbladder findings concerning for metastatic malignancy. Hepatopancreatobiliary multidisciplinary team review subsequently determined the disease to represent an unresectable gallbladder primary with metastatic involvement, and management was redirected toward palliative and supportive care. This case highlights the hazards of anchoring bias and premature closure when chronic symptoms are attributed to an established diagnosis. Persistent fatigue should remain an active clinical problem rather than being retrospectively incorporated into a pre-existing diagnosis without reassessment. In older adults, abnormal liver blood tests and an unexplained pleural effusion should prompt reconsideration of occult malignancy, particularly when the overall clinical trajectory is discordant with the initial diagnosis.

Categories: Emergency Medicine, Internal Medicine, Gastroenterology
Keywords: cancer of gallbladder, cholesteatoma, diagnostic bias, lft - liver function tests, sepsis treatment

Introduction

Diagnostic medicine is an iterative process in which clinicians continuously integrate symptoms, examination findings, investigations, treatment response, and disease trajectory into an evolving clinical hypothesis. Errors may occur when an initial explanation becomes disproportionately influential and subsequent information is interpreted through the lens of that diagnosis rather than being used to reconsider it. Anchoring, premature closure, confirmation bias, and search satisficing are well-described contributors to diagnostic error [1-3].

The problem is particularly relevant in older adults, in whom symptoms are often nonspecific and multiple simultaneous diagnoses are common. Fatigue may be attributed to infection, frailty, medication effects, sleep disturbances, psychological disease, or a known chronic condition. However, population-based evidence from primary care demonstrates that new-onset fatigue can precede a cancer diagnosis, with the absolute risk varying substantially according to age, sex, and accompanying symptoms [4,5]. In one large English cohort of more than 250,000 patients presenting with fatigue, cancer risk within 12 months exceeded 3% in men aged 65 years or older and women aged 80 years or older, and almost half of cancers diagnosed in the cohort were identified within three months of initial fatigue presentation [6].

Gallbladder cancer presents an additional diagnostic challenge because early clinical manifestations are frequently vague. The disease may remain clinically occult until locally advanced or metastatic disease develops. Age and female sex are recognized epidemiological risk factors, while nonspecific symptoms can contribute to delayed diagnosis. Modern imaging has an important role in defining the primary lesion, hepatic involvement, metastatic disease, and resectability. Computed tomography is particularly useful for assessing local invasion and distant metastasis [7].

Pleural effusion adds another layer of diagnostic complexity. In an older patient presenting with peripheral edema and dyspnea, cardiac failure may be an intuitive initial explanation. However, pleural effusion has a broad differential diagnosis encompassing cardiac, infectious, inflammatory, thromboembolic, and malignant causes. Malignant pleural effusion can occur secondary to extra-thoracic malignancies and frequently presents with dyspnea and constitutional symptoms. A combination of clinical assessment and appropriate imaging is therefore essential rather than attributing an effusion to the most immediately plausible diagnosis [8].

We present a case of an elderly woman with persistent fatigue, a known cholesteatoma, and subsequent pleural effusion in whom the clinical narrative initially appeared compatible with infection or cardiac failure. Reassessment of the complete clinical picture, particularly abnormal liver blood tests, led to urgent cross-sectional imaging and recognition of previously occult metastatic gallbladder malignancy. The case illustrates how an apparently reasonable diagnosis can become a cognitive trap when persistent symptoms are not independently reassessed.

Case Presentation

A 72-year-old woman presented to the emergency department with worsening generalized fatigue and a five-day history of bilateral lower-limb swelling. The patient had experienced approximately three months of persistent fatigue before this acute presentation. During this period, she had attended primary care on multiple occasions. The fatigue had been considered in the context of a persistent ear infection and known cholesteatoma, and the symptoms were reportedly attributed to the chronic otologic condition. She was already awaiting definitive surgical management of the cholesteatoma.

The patient had also experienced approximately three months of ongoing ear symptoms consistent with chronic infection associated with the cholesteatoma. Cholesteatoma is a locally destructive process that can present with persistent otorrhea, recurrent infection, hearing loss, and other otologic symptoms and generally requires definitive surgical treatment. In this case, the established diagnosis provided a plausible explanation for chronic fatigue and consequently became an important component of the patient's clinical narrative.

However, the patient's fatigue persisted despite ongoing management of the ear infection. The symptom was not associated with a documented alternative explanation during the preceding primary care encounters. There was therefore an opportunity to reconsider whether the chronic fatigue was fully explained by the known otologic disease. At emergency department presentation, the patient appeared systemically unwell with a National Early Warning Score 2 (NEWS2) of 4 (Table *1*) [9]. An immediate ECG was performed (Figure *1*).

Vital Sign Parameter	Patient's Value	NEWS2 Score
Heart Rate	129 beats/min	2
Respiratory Rate	18 breaths/min	0
Systolic Blood Pressure	110 mmHg	1
Oxygen Saturation	95% on air	1
Temperature	37.3'C	0
Level of Consciousness	Alert	0
Total Score		4

TABLE 1: Vital signs

NEWS2: National Early Warning Score 2

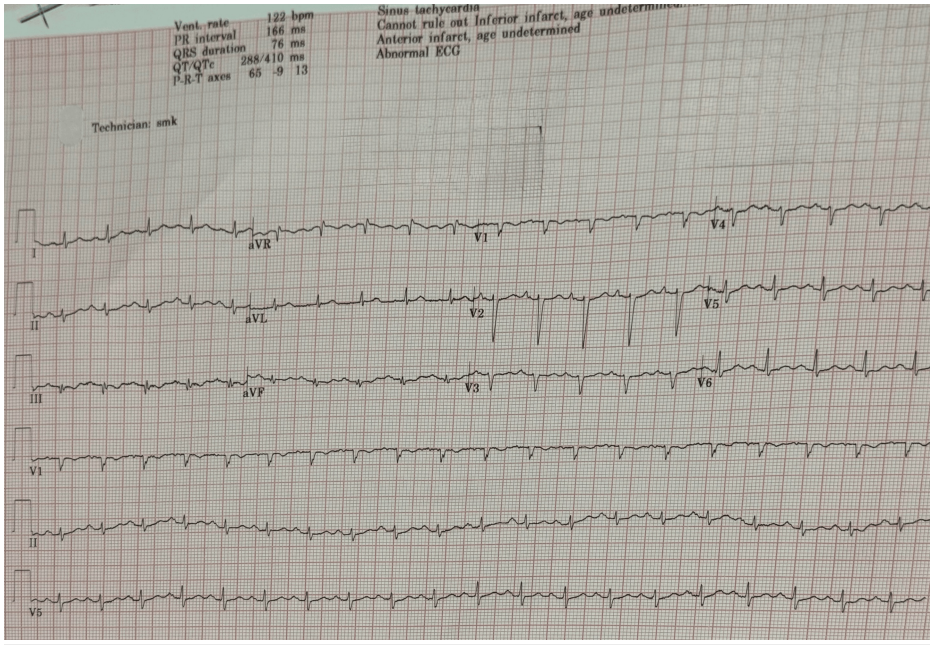


FIGURE 1: Electrocardiogram demonstrating sinus tachycardia with a heart rate of 129 beats/min

The physiological abnormalities prompted concern for acute infection and possible sepsis, particularly in the context of the known chronic ear infection. Initial management thereafter included intravenous fluids and antimicrobial therapy while investigations were undertaken. Initial laboratory investigations are demonstrated in Tables *2*, *3*.

Test	Results	Range	Unit
CRP	178	<5	mg/L
Hemoglobin	118	120-150	G/L
White Cell Count	14.9	4-10	10^9/L
Platelets	429	150-450	10^9/L
Hematocrit	0.352	0.36-0.46	L/L
RBC	4.06	3.8-4.8	10^{12}/L
RDW	16.6	11.6-14	%
MCV	86.7	83-101	FL
MCH	29.1	27-32	PG
MCHC	335	315-345	G/L
Neutrophils	11.7	2-7	10^9/L
Lymphocytes	1.8	1.1-3.5	10^9/L
Monocytes	1.3	0.2-1	10^9/L
Eosinophils	0.1	0.0-0.5	10^9/L
Basophils	0.1	<0.1	10^9/L
Nucleated Red Blood Cells	0		/100 WBC

TABLE 2: C-reactive protein + full blood count

MCV: mean corpuscular volume; MCH: mean corpuscular hemoglobin; MCHC: mean corpuscular hemoglobin concentration; CRP: C-reactive protein; RBC: red blood cell count; RDW: red cell distribution width

Variable	Value	Range	Unit
Sodium	133	133-146	Mmol/L
Potassium	4.3	3.5-5.3	Mmol/L
Urea	3.6	2.5-7.8	Mmol/L
Creatinine	58	45-83	Micromol/L
EGFR	88	>60	ML/min/1.73 m^2

TABLE 3: Kidney function and electrolytes profile

eGFR: estimated glomerular filtration rate

These findings reinforced the initial concern for an inflammatory or infectious process. However, inflammatory markers are not specific for infection and can also be elevated in malignancy, tissue injury, and other inflammatory conditions. The laboratory results therefore supported an inflammatory state but did not establish the source.

During assessment, the patient reported shortness of breath. Respiratory examination demonstrated reduced air entry at the right lung base, prompting chest radiography, and abdominal examination was unremarkable, with a soft and non-tender abdomen. The chest radiograph demonstrated a right-sided pleural effusion (Figure *2*). This finding substantially broadened the differential diagnosis.

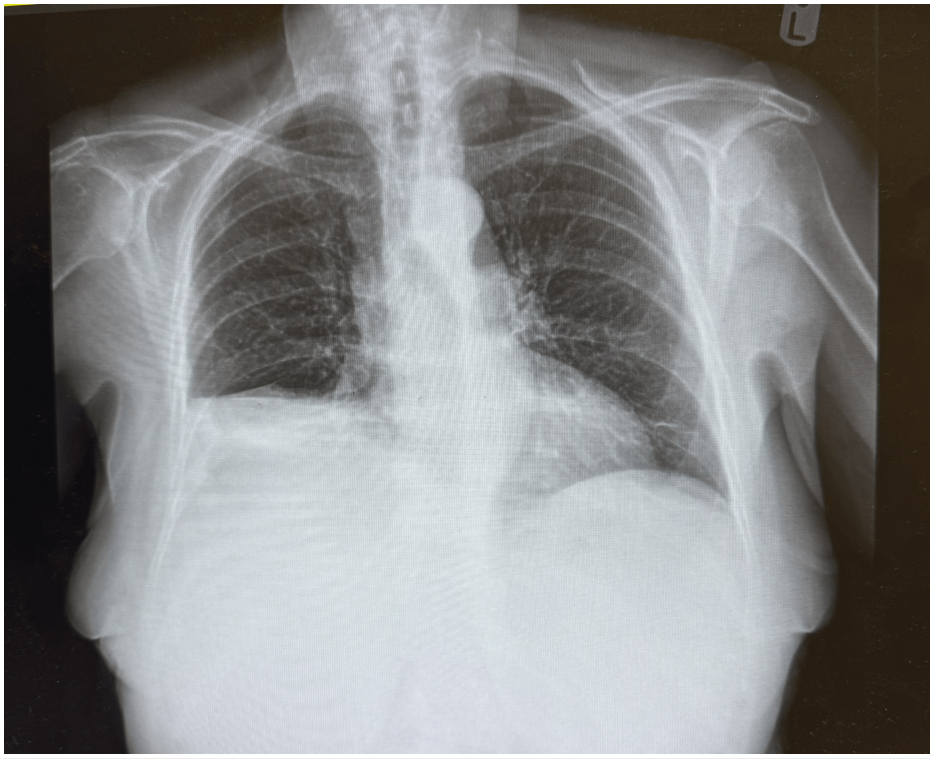


FIGURE 2: Chest radiograph showing a right-sided pleural effusion

Given the combination of bilateral lower-limb edema, dyspnea, and pleural effusion, congestive heart failure was initially considered. Liver function tests (LFTs) [10] and N-terminal pro-B-type natriuretic peptide (NT-proBNP) were obtained. The reported value was 203 ng/L and was interpreted clinically as not supportive of heart failure. At this stage, it became necessary to reconsider whether the pleural effusion was cardiac in origin and to evaluate other potential causes, including infection and malignancy [11-14].

Further review of the laboratory profile demonstrated deranged LFTs (Table *4*). Although the bilirubin level was not elevated, the combination of elevated alkaline phosphatase and low albumin with constitutional symptoms and pleural effusion raised concern for a hepatobiliary or malignant process.

Test	Value	Range	Unit
Total Protein	85	60-80	G/L
Albumin	31	35-55	G/L
Globulin	54	20-35	G/L
Alkaline Phosphatase	307	30-130	U/L
Total Bilirubin	21	0-21	Micromol/L
ALT	27	<35	U/L

TABLE 4: Liver function test

ALT: alanine aminotransferase

Rather than considering each abnormality in isolation, the clinical team reassembled the presentation as an older patient with months of unexplained fatigue, new pleural effusion, systemic inflammation, peripheral edema, and an abnormal liver biochemical profile. This differed substantially from the original clinical narrative of chronic ear infection with systemic inflammatory response.

Urgent computed tomography of the chest, abdomen, and pelvis was therefore arranged through same-day

emergency care. Imaging demonstrated extensive ill-defined lesions throughout the liver (Figure 3) and abnormal soft-tissue changes involving the gallbladder, including abnormal thickening of the gallbladder fundus (Figure 4). The radiological appearance was highly concerning for metastatic malignancy, with the gallbladder considered a potential primary site.



FIGURE 3: CT abdomen demonstrating extensive ill-defined lesions throughout the liver

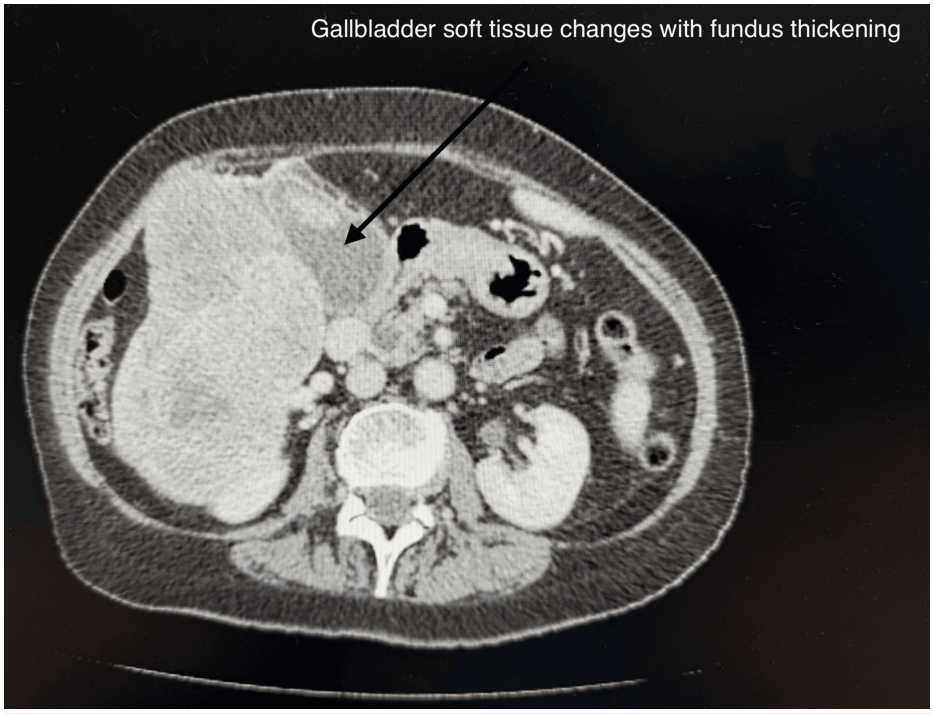


FIGURE 4: CT abdomen demonstrating abnormal gallbladder soft tissue changes, including gallbladder fundus thickening

The findings prompted an urgent suspected cancer pathway, a two-week-wait referral, and a hepatopancreatobiliary multidisciplinary team review and appropriate liver biopsy within six weeks. The team determined that the disease represented an unresectable primary gallbladder malignancy with metastatic disease, with radiological diagnosis and further liver biopsy to support staging of the malignancy, treatment plans such as chemotherapy, and prognosis. Given the advanced extent and lack of surgical resectability, the therapeutic approach shifted from curative intervention to palliative and supportive care [15-17]. Systemic treatment options for advanced biliary tract malignancy have evolved, including immunotherapy-based approaches in appropriately selected patients, although treatment decisions depend on disease extent, performance status, comorbidities, molecular characteristics, and patient preferences [18,19].

The clinical course demonstrated that the dominant hypothesis changed as new evidence accumulated. Chronic cholesteatoma initially provided a plausible explanation for systemic symptoms; acute physiological abnormalities subsequently raised concern for infection; edema, dyspnea, and pleural effusion suggested cardiac failure; and only after the liver biochemical abnormalities were integrated with the broader history was occult malignancy considered sufficiently likely to prompt cross-sectional imaging. The clinical timeline of the case is summarized in Table *5*.

Time	Clinical event
Approximately 3 months before admission	Persistent generalized fatigue developed
Approximately 3 months before admission	Ongoing ear infection/ cholesteatoma; patient awaiting surgery
Over subsequent months	Multiple GP consultations; fatigue attributed to chronic ear condition
5 days before admission	Bilateral lower-limb swelling developed
Emergency presentation	Worsening fatigue, tachycardia, borderline blood pressure and inflammatory response
Initial assessment	Infection/sepsis considered; IV fluids and antibiotics commenced
During admission	Dyspnea and reduced right basal air entry identified
Same admission	Chest radiograph demonstrated right-sided pleural effusion
Further investigation	Natriuretic peptide measured; heart failure became less supported
Laboratory review	ALP 307 U/L, bilirubin 21micromol/L, albumin 31 g/L
Urgent CT	Extensive liver lesions and abnormal gallbladder findings identified
Subsequent assessment	Urgent suspected cancer pathway and HBP MDT review
Final assessment	Unresectable primary gallbladder malignancy with metastatic disease
Management	Shift to palliative and supportive care

TABLE 5: Documented clinical timeline

HBP: hepatopancreatobiliary; MDT: multidisciplinary team; ALP: alkaline phosphatase

Discussion

The principal educational value of this case lies in the diagnostic process rather than the rarity of the malignancy. Gallbladder cancer is uncommon, but the clinical circumstances illustrate a broader and highly relevant problem: the danger of allowing an established diagnosis to explain symptoms that it does not actually explain.

Diagnostic anchoring and premature closure

Anchoring occurs when clinicians disproportionately rely on an initial impression when interpreting subsequent information. Premature closure occurs when the diagnostic process is stopped once a plausible explanation has been identified. These processes are predictable consequences of decision-making under uncertainty and time pressure and can be hazardous when the subsequent clinical trajectory no longer fits the original hypothesis.

In this case, the known cholesteatoma was a particularly powerful anchor. It was a genuine pathological condition capable of causing persistent local infection and inflammation, so attributing fatigue to it was not inherently unreasonable. The problem was that this explanation persisted despite the duration of the fatigue and the failure of the symptom to resolve.

A diagnosis can be correct and still be an incorrect explanation for the patient's entire presentation. The chronic ear disease was real. The eventual gallbladder malignancy was also real. The cognitive error risk arose from treating the first diagnosis as though it excluded the second.

Cholesteatoma commonly causes local symptoms, including persistent drainage, recurrent infection, hearing loss, and discomfort, and definitive treatment is usually surgical [20]. However, a chronic otologic diagnosis should not automatically explain months of generalized fatigue without independent assessment.

A useful clinical safeguard is to ask, 'What findings does my current diagnosis fail to explain?' In this case, the duration of the fatigue, bilateral edema, dyspnea, pleural effusion, and abnormal liver blood tests became progressively more difficult to reconcile with an isolated ear disorder. Diagnostic reasoning literature emphasizes that clinicians should continue to update the working diagnosis as new information accumulates rather than allowing the first plausible explanation to dominate all subsequent interpretation.

Fatigue should remain an active diagnostic problem. Fatigue is a low-specificity symptom, and most patients presenting with fatigue do not have occult advanced malignancy. The challenge arises when fatigue is persistent, progressive, unexplained, or accompanied by other clinically significant findings.

Large primary care cohorts demonstrate that cancer risk after presentation with fatigue varies according to age, sex, and clinical context. In a cohort of 250,606 patients presenting with fatigue, cancer risk within 12 months exceeded 3% in men aged 65 years or older and women aged 80 years or older, with nearly half of cancers diagnosed within three months of the initial fatigue presentation. More recent population-based work has also demonstrated that fatigue is associated with a broad range of subsequent diagnoses, emphasizing that the symptoms should be approached as a genuine diagnostic problem rather than being automatically attributed to a single pre-existing condition [5].

The important feature in this case was therefore not fatigue in isolation but persistent fatigue that remained unexplained over several months and was followed by objective abnormalities. Once bilateral edema, dyspnea, systemic inflammation, pleural effusion, and abnormal liver blood tests appeared, continued attribution of the entire presentation to cholesteatoma became increasingly difficult.

Repeated presentation with the same symptom should trigger a review of whether the original explanatory model remains adequate. This is especially important in older adults, where multimorbidity can make it tempting to attribute new symptoms to existing disease. Research examining cancer diagnosis in older adults has demonstrated that age and frailty can contribute to longer diagnostic intervals, highlighting the importance of maintaining diagnostic vigilance in this population [21].

Significance of abnormal liver blood tests

The abnormal liver profile was pivotal in this case. An alkaline phosphatase of 307 U/L and an albumin of 31 g/L provided evidence of a systemic process that was not readily explained by chronic ear disease. Liver blood tests are not diagnostic of malignancy by themselves, but their pattern and clinical context can provide important clues. British Society of Gastroenterology guidance emphasizes that abnormal liver blood tests require appropriate interpretation and investigation according to the clinical context, rather than simple dismissal or repeated testing without a diagnostic plan [22].

Here, the elevated alkaline phosphatase suggested a cholestatic or infiltrative component, while the low albumin could reflect chronic systemic disease, impaired hepatic synthetic function, inflammation, nutritional factors, or malignancy. When these abnormalities were combined with constitutional symptoms and a new pleural effusion, further investigations should be undertaken.

The lesson is not that every isolated abnormal liver blood test requires urgent cancer imaging. An abnormal liver test in an otherwise well patient is fundamentally different from an abnormal liver profile in an older patient with persistent constitutional symptoms, systemic inflammation, edema, and an unexplained pleural effusion. The diagnostic value came from integrating the abnormalities rather than treating them as separate laboratory findings.

Pleural effusion as a diagnostic pivot

The pleural effusion changed the clinical problem from a potentially localized infectious presentation into a systemic one. The differential diagnosis of pleural effusion includes heart failure, malignancy, infection, pulmonary embolism, inflammatory disease, and systemic causes.

The initial consideration of heart failure was understandable. Bilateral lower-limb swelling, dyspnea, and pleural effusion can form a recognizable clinical pattern. However, the reported natriuretic peptide result was interpreted as not supporting heart failure, making it important to reconsider the differential diagnosis rather than forcing the remaining findings into a cardiac explanation.

Natriuretic peptide testing can assist in evaluating suspected heart failure, but the precise assay and clinical setting matter. National Institute for Health and Care Excellence (NICE) guidance distinguishes between BNP and NT-pro BNP thresholds and between acute and chronic presentations. In acute heart failure assessment, BNP below 100 ng/L or NT-pro BNP below 300 ng/L makes acute heart failure less likely, whereas in suspected chronic heart failure, an NT-pro BNP below 400 ng/L makes the diagnosis less likely in an untreated patient.

The clinical lesson is not that a ‘negative BNP’ means the patient has malignancy. Rather, when a common explanation becomes less likely, clinicians should redirect the diagnostic process toward other plausible causes. In this case, the pleural effusion in an older adult with persistent constitutional symptoms and abnormal liver blood tests provided a clear rationale for considering malignancy. For the pleural effusion likely to be caused by the malignancy, the medical team chose to closely observe the patient rather than perform an invasive procedure, awaiting the multidisciplinary team review.

Cross-sectional imaging matters

The chest radiograph identified an important abnormality but did not establish its cause. Computed tomography was crucial because it enabled simultaneous assessment of the thorax, liver, gallbladder, lymph nodes, and other structures.

Imaging has a significant role in the diagnosis and staging of gallbladder cancer. Cross-sectional imaging can demonstrate the primary gallbladder lesion, hepatic invasion, regional nodal involvement, peritoneal disease, distant metastases, and features affecting resectability [23].

In this case, CT effectively connected findings that had previously appeared unrelated. The liver lesions provided a structural explanation for the abnormal liver biochemical profile, while the gallbladder abnormality suggested a possible primary malignancy. The scan therefore did more than identify cancer; it reconstructed the clinical story.

Gallbladder cancer and advanced presentation

Gallbladder cancer frequently presents at an advanced stage because early manifestations can be nonspecific. Symptoms may overlap with common hepatobiliary and gastrointestinal conditions, and the disease may not become clinically apparent until local invasion or metastatic spread has occurred.

The patient in this case did not present with a dramatic or specific gallbladder symptom. Instead, the initial clinical picture consisted of fatigue, an established ear condition, high inflammatory markers, peripheral edema, dyspnea, and pleural effusion. The absence of an obvious hepatobiliary presentation contributed to the diagnostic challenge.

Surgery is the principal potentially curative treatment for appropriately selected localized gallbladder cancer, while unresectable or metastatic disease requires systemic and palliative approaches based on disease extent and patient factors. Contemporary management of advanced biliary tract cancer has also evolved, with the TOPAZ-1 study demonstrating benefit from adding durvalumab to gemcitabine and cisplatin in appropriate patients with advanced biliary tract cancer. Subsequent patient-reported outcome data have further supported the clinical relevance of this treatment approach. In the present case, however, multidisciplinary review determined that the disease was unresectable and metastatic, and management was therefore redirected toward palliative and supportive care. With palliative care, the patient was planned to remain under hospice care.

System factors and diagnostic safety

It would be inappropriate to attribute the entire diagnostic delay to an individual clinician. Diagnostic delay is frequently multifactorial. Primary care clinicians manage undifferentiated symptoms, older patients may have multiple simultaneous diagnoses, and multimorbidity can make it difficult to distinguish new disease from progression of established conditions. Studies of cancer diagnosis in older adults have demonstrated that frailty and other patient and healthcare factors can contribute to diagnostic delay [24].

This case therefore highlights the importance of system-level diagnostic safety mechanisms as well as individual clinical vigilance. Repeated presentation with the same unexplained symptom should trigger a diagnostic time-out. Clinicians should distinguish between a diagnosis that explains one symptom and a diagnosis that explains the whole clinical picture.

When the patient's trajectory does not follow the expected course, the original diagnosis should be reopened. Longitudinal blood results should be reviewed rather than considered independently. Acute infection or sepsis should remain a working diagnosis when appropriate, but it should not become the endpoint of diagnostic reasoning when other findings remain unexplained.

Educational interventions aimed at improving recognition of cancer-related diagnostic delay and supporting clinicians in reconsidering initial diagnoses may contribute to safer diagnostic processes. The present case illustrates why this is particularly relevant when a patient has a genuine pre-existing diagnosis that can plausibly explain some, but not all, of the presenting symptoms.

Conclusions

This case illustrates how an occult metastatic gallbladder malignancy can initially masquerade as a combination of chronic infection, systemic inflammation, and possible cardiac failure. The patient's known cholesteatoma provided a plausible explanation for her persistent fatigue, but the continued attribution of a months-long constitutional symptom to an established diagnosis created a risk of diagnostic anchoring.

Several lessons emerge. First, persistent patient-reported symptoms deserve independent reassessment, even when another genuine diagnosis is already present. A known condition should not automatically become the explanation for every subsequent symptom. Second, diagnostic hypotheses must evolve when

new objective data emerge. In this case, pleural effusion, bilateral edema, abnormal liver blood tests, and constitutional symptoms collectively represented a substantially different clinical problem from isolated otologic infection. Third, abnormal LFTs should be interpreted in clinical context rather than dismissed as incidental, particularly in an older patient with unexplained constitutional symptoms. Current guidance supports structured evaluation of abnormal liver blood tests. Fourth, a pleural effusion should not automatically be attributed to heart failure. Natriuretic peptide testing can help redirect the differential, but the precise assay and threshold must be verified. Finally, the most important diagnostic safeguard is the willingness to ask whether the current diagnosis still explains the entire patient. The clinical team in this case reached the diagnosis only after moving beyond the initial explanatory framework and integrating the patient's symptoms, examination findings, biochemical abnormalities, and imaging into a single problem representation. For clinicians caring for older adults, the absence of a dramatic presenting symptom should not create false reassurance. Fatigue may be nonspecific, but persistent fatigue combined with new objective abnormalities can represent the earliest visible part of an otherwise concealed malignancy. Diagnostic vigilance does not mean pursuing cancer in every patient with fatigue; it means recognizing when the accumulating evidence no longer fits the original explanation and having the discipline to reopen the differential.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

Concept and design: Wutt Oo

Acquisition, analysis, or interpretation of data: Wutt Oo

Drafting of the manuscript: Wutt Oo

Critical review of the manuscript for important intellectual content: Wutt Oo

Disclosures

Human subjects: Informed consent for treatment and open access publication was obtained or waived by all participants in this study. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

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